The Examiner in the final Office Action, in the Response to Arguments section thereof, argues that Dugan anticipates claims 1, 15 and 28 by teaching, in column 3, lines 1-16, that four lower-rate streams can be generated from a single high-speed data stream, with each lower-rate stream being transmitted via a separate wavelength channel, and with the separate wavelength channels being multiplexed onto a single fiber. This is a type of conventional dense WDM, and fails to meet the particular limitations of independent claims 1, 15 and 28. For example, independent claim 1 includes, among other limitations, steps (a) and (b) as follows, with emphasis supplied:

(a) assigning distinct portions of the data signal to two or more respective channels;

(b) for each channel, using corresponding assigned portions of the data signal to modulate an optical carrier signal at a respective wavelength associated with that channel.

It is therefore clear that claim 1 requires that distinct portions of the data signal be assigned to each of the channels. The Examiner argues that Dugan, in assigning each of the four lower-rate streams noted above to a different channel, meets the limitations of claim 1. However, if each of the lower-rate streams is a "distinct portion" of the high-speed data stream, as argued by the Examiner, then Dugan fails to meet the limitation of step (b) regarding using assigned portions of the data signal to modulate an optical carrier signal in each channel.

Moreover, claim 1 clearly requires that distinct portions of the data signal itself are used to modulate an optical carrier signal associated with a corresponding wavelength channel. This is not the case in Dugan. As noted by the Examiner, the lower-rate streams, and not portions of the high-speed data stream, modulate the optical carrier signals in Dugan. Although the lower-rate streams may be generated from the high-speed data stream, these lower-rate streams do not constitute actual portions of the high-speed data stream signal. Instead, the lower-rate streams are separate and distinct signals, as is apparent from the fact that these signals operate at a lower bit rate than the high-speed data stream signal. In other words, the fact that the lower-rate stream signals operate at a different bit rate than the high-speed data stream signal is a clear indication that the former are not "portions" of the latter as would be required by claim 1.

Dugan thus discloses a type of conventional dense WDM of multiple separate and independent data signals, and not separation of one signal into distinct portions of that signal. Applicants have described conventional dense WDM arrangements in the Background portion of their specification, for example, at page 1, lines 5-14. Conventional dense WDM is not what Applicants are claiming as their invention.

An important advantage provided by the claimed arrangements is enhanced security, as is described in the specification, at page 2, lines 6-10:

> As a consequence, successful reception of the original message requires both the ability to receive over the full set of wavelength channels used for transmission, and knowledge of the pattern of channel allocations, so that the portions can be reconstituted in the proper order. Security is enhanced because neither of these requirements is easily satisfied in an unauthorized interception of the transmitted signal.

Applicants submit that this enhanced security advantage of the present invention is not provided by the techniques disclosed in Dugan, nor by other conventional dense WDM techniques.

In view of the above, Applicants respectfully submit that the Dugan reference fails to anticipate claim 1.

Applicants similarly traverse the rejection of independent claims 15 and 28 under §102(b) as being anticipated by Dugan. For example, claim 15 is directed to a method of optical communication in which different portions of a received optical signal are assembled, from distinct wavelength channels, into a single, sequential data stream. In the optical receiver 50 of Dugan FIG. 2, this claimed method does not occur. Instead, Dugan separates a 10 Gb/s received optical signal into multiple and independent data signals. Similarly, claim 28 calls for an optical communication system in which a received input optical signal that contains data content in two or more distinct wavelength channels is separated into portions based on wavelength, with the portions being assembled into a single, sequential data stream. This claimed arrangement is simply not present in the Dugan reference.

Applicants therefore respectfully submit that the §102(b) rejection of independent claims 1, 15 and 28 is improper, and should be withdrawn.

Dependent claims 2-14, 16-21 and 29-32 are believed allowable for at least the reasons identified above with regard to their corresponding independent claims.

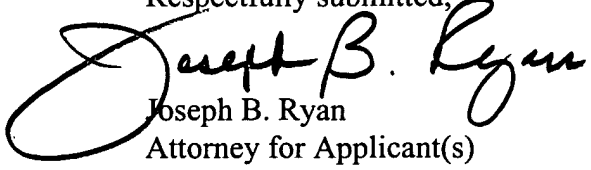
Independent claim 22 stands rejected under §103(a) as being unpatentable over Dugan in view of U.S. Patent No. 6,256,124 (hereinafter "Hait"). The Examiner acknowledges that Dugan fails to teach at least the "time windows" limitations of claim 22,and argues that Hait supplies these missing teachings. However, Applicants note that the above-described deficiencies of the Dugan reference also render the §103(a) rejection of claim 22 improper. More particularly, for reasons similar to those given above in conjunction with independent claims 1, 15 and 28, Dugan fails to teach the claimed apportioning of data content of a data signal into two or more distinct wavelength channels, and the output optical signal containing portions of the data content in two or more wavelength channels. Instead, the optical transmitter 10 in Dugan FIG. 1 simply combines multiple and independent data signals into a higher-rate optical signal via conventional dense WDM techniques. The Hait reference fails to remedy this fundamental deficiency of the Dugan reference, and as a result the proposed combination of Dugan and Hait fails to meet the limitations of claim 22. The §103(a) rejection of claim 22 is therefore believed to be improper and should be withdrawn.

Dependent claims 23-27 are believed allowable for at least the reasons identified above with regard to independent claim 22.

In view of the above, Applicants believe that claims 1-32 are in condition for allowance, and respectfully request the withdrawal of the §102(b) and §103(a) rejections.

As indicated previously, a Notice of Appeal is submitted concurrently herewith.

Respectfully submitted,



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